WHAT IS CLAIMED IS:

1. An organic light emitting device comprising an emissive layer disposed between and electrically connected to an anode and a cathode, wherein the emissive layer comprises a host material and a phosphorescent emissive material, and wherein the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 1% to about 50%, the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 0.5% to about 20%, and the difference between the concentrations of the phosphorescent emissive material in the host material on the anode-side of the emissive layer and the cathode side of the emissive layer are at least about 0.5%.

2. The organic light emitting device of claim 1, wherein the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 5% to about 20%, and the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 1% to about 6%.

3. The organic light emitting device of claim 2, wherein the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 6% to about 12%.

4. The organic light emitting device of claim 3, wherein the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 2% to about 4.5%.

5. The organic light emitting device of claim 1, wherein the phosphorescent emissive material is present in the host material as a concentration gradient.

6. The organic light emitting device of claim 1, wherein the emissive layer is comprised of a first sublayer and a second sublayer each of which comprises the phosphorescent emissive material and the host material, wherein

the first sublayer is adjacent to the second sublayer;

the first sublayer is situated on the anode-side of the emissive layer;

the second sublayer is situated on the cathode side of the emissive layer; and

the concentration of the phosphorescent emissive material in the host material is higher in the first sublayer and lower in the second sublayer.

7. The organic light emitting device of claim 1, wherein the phosphorescent emissive material has a HOMO level that is lower in energy than that of the host material.

8. The organic light emitting device of claim 6, wherein the host material has a LUMO energy level that is lower in energy than that of the phosphorescent emissive material.

9. The organic light emitting device of claim 1, wherein exciton formation occurs in a region of the emissive layer such that the distance from the region of exciton formation to the boundaries of the emissive layer is greater than 50% of the exciton diffusion length.

10. The organic light emitting device of claim 9, wherein the emissive region is less than about 30 nm in thickness.

11. The organic light emitting device of claim 10, wherein the emissive region is less than about 20 nm in thickness.

12. An organic light emitting device comprising an emissive layer disposed between and electrically connected to an anode and a cathode, wherein the emissive layer comprises a host material and a phosphorescent emissive material, and wherein the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 1% to about 50%, the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 0.5% to about 20%, and the ratio of the concentrations of the phosphorescent emissive material in the host material on the anode-side of the emissive layer to the cathode side of the emissive layer is at least about 1.25:1.

13. The organic light emitting device of claim 12, wherein the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 5% to about 20%, and the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 1% to about 6%.

14. The organic light emitting device of claim 12, wherein the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 6% to about 12%.

15. The organic light emitting device of claim 12, wherein the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 2% to about 4.5%.

16. The organic light emitting device of claim 12, wherein the phosphorescent emissive material is present in the host material as a concentration gradient.

17. The organic light emitting device of claim 12, wherein the emissive layer is comprised of a first sublayer and a second sublayer each of which comprises the phosphorescent emissive material and the host material, wherein
the first sublayer is adjacent to the second sublayer;
the first sublayer is situated on the anode-side of the emissive layer;
the second sublayer is situated on the cathode side of the emissive layer; and
the concentration of the phosphorescent emissive material in the host material is higher in the first sublayer and lower in the second sublayer.

18. The organic light emitting device of claim 12, wherein the phosphorescent emissive material has a HOMO energy level that is higher than that of the host material.

19. The organic light emitting device of claim 18, wherein the host material has a LUMO energy level that is lower than that of the phosphorescent emissive material.

20. The organic light emitting device of claim 12, wherein exciton formation occurs in a region of the emissive layer such that the distance from the region of exciton formation to the boundaries of the emissive layer is greater 50% of the exciton diffusion length.

21. The organic light emitting device of claim 20, wherein the emissive region is less than about 30 nm in thickness.

22. The organic light emitting device of claim 21, wherein the emissive region is less than about 20 nm in thickness.

23. An organic light emitting device comprising an emissive layer disposed between and electrically connected to an anode and a cathode, wherein the emissive layer comprises a host material and a phosphorescent emissive material, and wherein the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 1% to about 50%, the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 0.5% to about 20%, and the difference between the concentrations of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer and the anode-side of the emissive layer are at least about 0.5%.

24. The organic light emitting device of claim 23, wherein the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 5% to about 20%, and the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 1% to about 6%.

25. The organic light emitting device of claim 24, wherein the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 6% to about 12%.

26. The organic light emitting device of claim 24, wherein the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 2% to about 4.5%.

27. The organic light emitting device of claim 23, wherein the phosphorescent emissive material is present in the host material as a concentration gradient.

28. The organic light emitting device of claim 23, wherein the emissive layer is comprised of a first sublayer and a second sublayer each of which comprises the phosphorescent emissive material and the host material, wherein
the first sublayer is adjacent to the second sublayer;
the first sublayer is situated on the anode-side of the emissive layer;
the second sublayer is situated on the cathode side of the emissive layer; and
the concentration of the phosphorescent emissive material in the host material is higher in the second sublayer and lower in the first sublayer.

29. The organic light emitting device of claim 23, wherein exciton formation occurs in a region of the emissive layer such that the distance from the region of exciton formation to the boundaries of the emissive layer is greater than the exciton diffusion length.

30. The organic light emitting device of claim 29, wherein the emissive region is less than about 30 nm in thickness.

31. The organic light emitting device of claim 30, wherein the emissive region is less than about 20 nm in thickness.

32. An organic light emitting device comprising an emissive layer disposed between and electrically connected to an anode and a cathode, wherein the emissive layer comprises a host material and a phosphorescent emissive material, and wherein the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 1% to about 50%, the concentration of the phosphorescent emissive material in

the host material on the anode-side of the emissive layer is about 0.5% to about 20%, and the ratio of the concentrations of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer to the anode-side of the emissive layer is at least about 1.25:1.

33. The organic light emitting device of claim 32, wherein the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 5% to about 20%, and the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 1% to about 6%.

34. The organic light emitting device of claim 33, wherein the concentration of the phosphorescent emissive material in the host material on the cathode-side of the emissive layer is about 6% to about 12%.

35. The organic light emitting device of claim 33, wherein the concentration of the phosphorescent emissive material in the host material on the anode-side of the emissive layer is about 2% to about 4.5%.

36. The organic light emitting device of claim 32, wherein the phosphorescent emissive material is present in the host material as a concentration gradient.

37. The organic light emitting device of claim 32, wherein the emissive layer is comprised of a first sublayer and a second sublayer each of which comprises the phosphorescent emissive material and the host material, wherein
the first sublayer is adjacent to the second sublayer;
the first sublayer is situated on the anode-side of the emissive layer;
the second sublayer is situated on the cathode side of the emissive layer; and
the concentration of the phosphorescent emissive material in the host material is higher in the second sublayer and lower in the first sublayer.

38. The organic light emitting device of claim 32, wherein exciton formation occurs in a region of the emissive layer such that the distance from the region of exciton formation to the boundaries of the emissive layer is greater than 50% of the exciton diffusion length.

39. The organic light emitting device of claim 38, wherein the emissive region is less than about 30 nm in thickness.

40. The organic light emitting device of claim 39, wherein the emissive region is less than about 20 nm in thickness.

41. An organic light emitting device comprising an emissive layer disposed between and electrically connected to an anode and a cathode, wherein the emissive layer comprises a first sublayer, a second sublayer and a third sublayer, each of which comprises a host material and a phosphorescent emissive material, wherein:

the first sublayer is on the anode-side of the emissive layer and the concentration of the phosphorescent emissive material in the host material in the first sublayer about 1% to about 50%;

the third sublayer is on the cathode-side of the emissive layer and the concentration of the phosphorescent emissive material in the host material in the third sublayer about 1% to about 50%; and

the second sublayer is disposed between the first sublayer and the third sublayer, and the concentration of the phosphorescent emissive material in the second sublayer is about 0.5% to about 20%;

and wherein

the difference between the concentrations of the phosphorescent emissive material in the host material in the first sublayer and in the second sublayer is at least about 0.5%, wherein the first sublayer has a higher concentration of the phosphorescent emissive material than the second sublayer, and

the difference between the concentrations of the phosphorescent emissive material in the host material in the third sublayer and the second sublayer are at least about 0.5%, wherein the

third sublayer has a higher concentration of the phosphorescent emissive material than the second sublayer.

42. An organic light emitting device comprising an emissive layer disposed between and electrically connected to an anode and a cathode, wherein the emissive layer comprises a first sublayer, a second sublayer and a third sublayer, each of which comprises a host material and a phosphorescent emissive material, wherein:

the first sublayer is on the anode-side of the emissive layer and the concentration of the phosphorescent emissive material in the host material in the first sublayer about 1% to about 50%;

the third sublayer is on the cathode-side of the emissive layer and the concentration of the phosphorescent emissive material in the host material in the third sublayer about 1% to about 50%; and

the second sublayer is disposed between the first sublayer and the third sublayer, and the concentration of the phosphorescent emissive material in the second sublayer is about 0.5% to about 20%;

and wherein the ratio of the concentrations of the phosphorescent emissive material in the host material in the first sublayer and in the second sublayer is at least about 1.25:1, and the ratio of the concentrations of the phosphorescent emissive material in the host material in the third sublayer and in the second sublayer is at least about 1.25:1.